REMARKS

Applicants wish to thank the Examiner for considering the present application. In the Final Office Action dated November 26, 2004, Claims 1 and 4-24 are pending in the application. Applicants respectfully request the Examiner for reconsideration.

Claims 1 and 4-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Perahia et al* (6,188,896) in view of *Durvasula* (6,137,451). Applicants respectfully traverse.

Claim 1 is directed to a method of preventing interference in a communications system that includes generating a fixed reuse pattern in a service area from a high altitude communication device with the pattern having at least a first resource cell and a second resource cell. The method further includes the step of selectively suppressing a side lobe of a beam having a first resource to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and a side lobe suppressed portion aligns with the first resource cell.

The Applicants agree with the Examiner's assessment that the *Perahia* reference does not teach selectively suppressing a side lobe of a beam. Applicants, however, disagree with the Examiner's assessment that *Durvasula* teaches "suppressing a side lobe of a beam having a first resource to form a suppressed portion and a non-suppressed portion so that said non-suppressed portion aligns with said second resource cell." Applicants have reviewed the Col 2 lines 9-30.

Applicants respectfully submit that this portion is in the summary of the invention and thus the detailed description must be studied in order to find the meaning of these sections. However, Applicants submit that beginning on line 21 of Col. 2 it states: "By increasing the diameter of the radiating aperture of the reflector, the sidelobes of the primary beam can be brought closer in terms of angularization, to the main lobe of the primary beam. In order to minimize interference with transmissions of the secondary beam, the reflector is shaped to suppress primary-beam sidelobes in the secondary-beam direction. Furthermore,

the reflector is specifically shaped with a surface contour which directs lobes of the primary beam in directions away from the axis of the secondary beam." Upon a review of Col. 4, lines 37-53, it appears that the *Durvasula* reference describes the adjustment of the reflector of the primary feed. In Col. 4, line 42, it states: "Typically, in the construction of the antenna, a diameter of the radiating aperture of the reflector 28, by way of example, is on the order of 50 to 100 times as great as the diameter of the radiating aperture of the primary feed 30. A larger radiating aperture decreases angular spacing among the sidelobes 66B and a smaller radiating aperture enlarges the angular spacing among the sidelobes 66B. In particular, the angular spacing among the sidelobes 66B of the primary radiation pattern 66 are selected to provide for essentially zero radiation in the direction of the main lobe 68A of the secondary radiation pattern 68 by appropriate shaping of the surface contour of the reflector." It appears that the overall surface contour of the device as well as the size of the radiating aperture is changed. Applicants respectfully submit that the entire sidelobe is changed in the *Durvasula* reference. Changing the entire sidelobe has been known as is set forth in the background of the present invention. These passages certainly do not teach "selectively reshaping the antenna surface at interference locations and maintaining a shape of the antenna in non-interference locations to form a suppressed portion and a non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and a sidelobe suppressed portion aligns with the first resource cell." It appears that the Examiner recognizes this and on page 4 of the Final Office Action states: "The teaching of *Durvasula* inherently teaches that after the reflector is reshaped, the non-suppressed portion will align with the second resource cell and sidelobe suppressed portion will align with the first resource cell. The Examiner then points to Fig. 1, regions 40 and 44 and beams 30 and 32. Reference numerals 40 and 44 refer to the primary beam footprint and secondary beam footprint that correspond to the primary and secondary beams 30, 32. As is described, "the secondary beam is directed to a separate portion of the earth" as stated in Col. 3, line 20. Applicants acknowledge that the reduction of interference between the primary and secondary beams is a desired goal. However, it appears

that a conventional approach of changing the antenna shape to suppress the sidelobes is set forth. No teaching of selectively changing the sidelobes is set forth. Because no selective nature is set forth in the *Durvasula* reference, a suppressed and non-suppressed portion so that the non-suppressed portion aligns with the second resource cell and a sidelobe suppressed portion aligns with the first resource cell is not taught or suggested. It should also be noted that on page 9 of the present application, one advantage of the invention is set forth. That is, by relaxing requirements on the sidelobe, better main lobe performance may be achieved with the antenna design that requires sidelobe suppression for all beams. Applicants respectfully submit that all beams are taught to be suppressed in the *Durvasula* reference.

Claims 4-8 are dependent upon Claim 1 and are believed to be allowable for the same reasons set forth above. Specifically, with respect to Claim 8, no teaching or suggestion is provided in either reference for a stratospheric platform. Claim 9 is similar to Claim 1 except Claim 9 is set forth as a communication system. Claim 9 specifically recites that the antenna is selectively shaped so that sidelobes of the first plurality of beams are selectively suppressed in the first plurality of cells having the first resource and the sidelobes are unsuppressed in the second plurality of cells. Therefore, this is similar language to that set forth in Claim 1 and therefore Claim 9 is also believed to be allowable for the same reasons set forth above.

Claims 10-14 are dependent upon Claim 9 and are believed to be allowable for the same reasons set forth above.

Claim 15 is a method claim that includes the steps of identifying interference locations of the first beam relative to the plurality of second beams, selectively reshaping an antenna to selectively suppress interference at the interference locations, and maintaining the antenna to not suppress interference at non-interference locations. These limitations are similar to those set forth in Claims 1 and 9 and therefore Claim 15 is believed to be allowable for the same reasons set forth above.

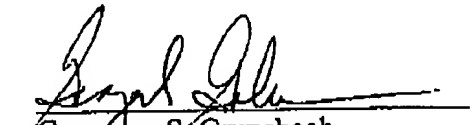
Claims 16-20 depend upon Claim 15 and are believed to be allowable for the same reasons that Claim 15 is allowable.

Claim 21 recites "selectively performing side lobe suppression only for beams using a same communication resource." The *Durvasula* reference does not teach that the primary beam and secondary beam utilize the same communication resource. Also, the *Durvasula* reference does not teach selectively performing sidelobe suppression.

Claims 22-24 ultimately depend from Claim 21 and are believed to be allowable for the same reasons set forth above.

In light of the above amendments and remarks, Applicants submit that all rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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